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(54) Title: MAMMALIAN GENES INVOLVED IN RAPAMYCIN RESISTANCE AND TUMORGENESIS: RAPR7 GENES

SEQ ID NO:1
TCNNATTCCCGAGAATAAATTTCTGTGACTAACTCTTCCTTTTGTTGGTTCTTCATGGCATATGCCTTATGAAGG
TAACATACCCAAGCTGCCTCTGCCTCCCGCAGTGAACCCCTACCCTGCCCTTTGGCAGGTTCTCTTACTGACCAT
CCCCACCTGCCCCACACATCCTCCCCTATGCACCCCAACTNTGAGCCCCTCCTGCTCAGTAAGTCTGTAGACTTG
GTGGGTATATTGGNCTCATTGAGACTGCAGGCCCTTGGAGGGCAGGCTCTGACCTGCAGTAAGATGTGTGAGTGA
TACTCAGCACACANTAGGTGGATAAATACCCCCACAGTAGGTGGGTAGTGAGCCCTGTGAGTCCACTGTAAGNCA
CCATCTACATGGGCANAGCCTGCTTTAAGCGTGGGTTAGGGACACAACAGTCTCTTCAGCAGGGCTTCTGGCACC
ATCTACACAAGTCCATCCTCAGCTCTTCCACTCCCGGGTTCCCTCCTGGACCTGTGTGACTCTGAGGAACTTGGG
GAATTCCTAACCTCCCCTTTCAACTGAGCCCTTGGCTCTTGGAGTTAGCCACAACCTAACTACTCAGGTCCCTCC
AACAAGGGGACTGTGTCTGTGGCTGGATGACTCATGCACACTGCTCCATCCCGCAATCTTGGGCGGGACTTGGGC
TGGGGAGGATGCCAGCCAGCTCAGGCTAGGAGCTTGCATCCTGTTGCCCCAACCCAGCCCTACCAGAACAGAGTG
TACTCAGAGCTCCAGGACAAAAATCTGGAAACAGAGAGCCGGCTCTCATTTGGACCGAGATCTGAGTGATGAAAA
GAGCAGGCAGAGGAAACAGCAAGTTCAAAGTTCCTGAGGTGGGAATGCGCTTGACACAACGGAGACCTGAGAAGA
ACACAGCAAAGGCCGTGTTACATTTGTCTGNGACTCCAGCCCCCAAGGATCTGGTCAGGACAGACATNGCGAGGA
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CCACTGGCCAGGCTAACTAAGGTTCTTAACTTTTTAAGNATTATTTTTCTTTCTTATGTATGTGTATATGGGGGA
GGGGATGCACAAGGGCATGGGGGGGGGGTCCCTGCAGAAGTCAGAAGAGGTGCCAGATCCCTGGGAGCTGGAATT
AAAGTCAGTCATGAAACATCCAAGATGGACACTGGGNAACTGAACTTGGGTCCTCTGCGAGAGGAGTAATGGTCT
TAACTGCTGAGCCATCTCTAGGCCCAATGTCTGGTTTTGTTTTGTTTTGTTTTGTTTTGTTTTGTTTTGTTTTGT
TTTGTATTTGGGGGTTTTTGTTTGTCTGTTTGGTTGGTTTGTTTGGTTTTTCTTGAGACAGGGTTTCTCTGTATA
GCCCTGGCTGTCCTGGAACTCACTCTATAGACTAGGCTGGCCTCGAACTCAGAAATCCTCCTGCCTCTGCCTCCC
AAGTGCTGAGATTAAAGGCCCGTGCCACCACTGCCCGACGCCAATGTCTGTATTTTATTCATCTCTGCAGAATCT
CTTTTGTCTCCTAACGGAACATCATCCCAGATTCTGGGAAGTACACTGAAGACAATGGGGTGGGTGTTGTTTCTC
TCCTATGCCCTTTACATNCTCCCTACCTATTTCAGATGTAACCATGATCTACCAGCTCATCACAGGCCACAGCTT
AAACCTCCCTC

(57) Abstract: The invention provides nucleotide sequence of a novel mammalian gene which is involved in rapamycin resistance and tumorgenesis, the RapR7 gene, and amino acid sequences of its encoded proteins, and fragments and derivatives and analogs thereof. The present invention also provides methods and compositions for regulating rapamycin resistance and/or tumorgenesis by modulating the expression and/or the activity of RapR7 gene. The invention also provides methods and compositions for treatment of diseases, e.g., cancers, by modulating the expression and/or activity of RapR7 gene. The invention also provides methods and compositions for diagnosing and screening RapR7 mediated rapamycin resistance and/or tumorgenesis in patients. The invention further provides host cells whose RapR7 gene can be reversibly overexpressed, and to methods of using the RapR7 gene in evaluation and screening for drugs which regulate rapamycin resistance and/or tumorgenesis.

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